

## **REMARKS/ARGUMENTS**

### **1.) Claim Amendments**

The Applicants have canceled claims 1-26 and claims 27-34 have been added. Accordingly, claims 27-34 are pending in the application. Favorable reconsideration of the application is respectfully requested in view of the foregoing amendments and the following remarks.

### **2.) Claim Rejections – 35 U.S.C. § 101**

In paragraph 1 of the Office Action, the Examiner rejected claims 1-5, 7-14, 16-19 and 21-23 under 35 U.S.C. § 101 because the claimed invention is directed to non-statutory subject matter. The Applicants have introduced the new independent claims 27-34 in order to overcome the 35 U.S.C. § 101 rejection on non-statutory matter.

The Examiner stated in the Office Action that the canceled claims 1-5, 7-14, 16-19 and 21-23 did not produce a useful, concrete and tangible result.

The new claims 27 and 28 overcome the 35 U.S.C. § 101 rejection by reciting a method of generating and accessing a sequence of excitation codebook identifications, identifying one excitation codebook out of a plurality of excitation codebooks, and further encoding a signal block using the identified excitation codebook. Thus, the end result is an encoded signal block where unencoded data existed before.

The new claims 29 and 30 overcome the 35 U.S.C. § 101 rejection by reciting a method of generating and accessing a sequence of excitation codebook identifications, identifying one excitation codebook out of a plurality of excitation codebooks, and further decoding an encoded signal block using the identified excitation codebook. Thus, the end result is a decoded signal block where an encoded signal block existed before.

The new claims 31 and 33 overcome the 35 U.S.C. § 101 rejection by reciting an encoder comprising means for generating and accessing a sequence of excitation codebook identifications. The encoder further comprising means for identifying one excitation codebook out of a plurality of excitation codebooks and means for encoding a

signal block using the identified excitation codebook. Thus, the end result is an encoded signal block where unencoded data existed before.

The new claims 32 and 34 overcome the 35 U.S.C. § 101 rejection by reciting a decoder comprising means for generating and accessing a sequence of excitation codebook identifications. The decoder further comprising means for identifying one excitation codebook out of a plurality of excitation codebooks and means for decoding an encoded signal block using the identified excitation codebook. Thus, the end result is a decoded signal block where an encoded signal block existed before.

### 3.) Claim Rejections – 35 U.S.C. § 103(a)

In paragraphs 2-3 of the Office Action, the Examiner rejected claims 2-3, 7-11, 13-14, 16-18 and 21-23 under 35 U.S.C. § 103(a) as being unpatentable over Adoul, et al. (US 5,754,976) in view of Ubale, et al. (US 5,778,335). The Applicants have introduced the new independent claims 27-34 to better distinguish the claimed invention from Adoul and Ubale. The Examiner's consideration of the new independent claims 27-34 is respectfully requested.

Adoul describes a method of searching for a code vector in one codebook where the search complexity is reduced by pre-selecting a subset of pulse amplitude/positions combinations in relation to the sound signal, the code vector search in said one codebook being limited to the case of non-zero-amplitude pulses and fixed pulse amplitudes (see abstract; column 12, line 24- column 15, line 7). Thus, according to Adoul, the code vector search through one codebook is restricted to certain categories of pulses, which has nothing to do with identifying one excitation codebook, out of a plurality of excitation codebooks, from a sequence of excitation codebooks identifications according to the Applicants' invention.

The Applicants' invention provides for an encoding/decoding scheme where *one excitation codebook, out of a plurality of excitation codebooks*, is identified to be used for encoding or decoding a signal block. The one excitation codebook that is identified and used for encoding or decoding a signal block is identified from a cyclically or pseudo-randomly generated sequence of codebook identifications, e.g. a counter value for the cyclically generated sequence or an algorithm that generates the pseudo-

randomly generated sequence *is known to both the encoder and the decoder*. Thus, there is *no need for explicitly transmitting coding mode information on the excitation codebook to use from the encoder to the decoder* (see e.g. page 2 and 6 in the application as filed).

Adoul does not indicate, or even suggest, anything about any of the claim elements of the new independent claim 27-34.

Ubale describes a method of compressing speech and music by using multiple band (multiband) fixed excitations stored in codebooks. Multiband fixed excitations are used for generating the composite excitation signal (waveform). The use of voice-music classification allows the coding structure to be adapted to the statistical character of the audio signal (abstract). Furthermore, Ubale describes the use of multiple adaptive codebooks, which has nothing to do with *algebraic* codebooks,

In the case of multiple adaptive codebooks, Ubale states that the entries of the codebooks are specified by sending a pitch value for each codebook (see column 6, line 62- column 7, line 4). As mentioned above, the Applicants' invention provides for an encoding/decoding scheme in which the coding is improved *without the need for explicitly transmitting coding mode information on the excitation codebook to use from the encoder to the decoder*. Thus, in contrast to Applicants' invention, Ubale explicitly transmits coding mode information from the encoder to the decoder. Consequently, by transmitting one entry from each codebook from the encoder to the decoder, Ubale teaches away from the Applicants' invention.

Ubale does not indicate, or even suggest, anything about any of the claim elements of the new independent claim 27-34. Furthermore the combination of Adoul and Ubale does not indicate, or even suggest, anything about any of the claim elements of the new independent claim 27-34. Therefore, the allowance of claims 27-34 is respectfully requested.

In paragraph 6 of the Office Action, the Examiner rejected claims 4-5 under 35 U.S.C. § 103(a) as being unpatentable over Adoul in view of Ubale, and further in view of Heidari, et al. (US 6,055,496). The Applicants have introduced the new independent claims 27-34 to better distinguish the claimed invention from Adoul, Ubale and Heidari.

The Examiner's consideration of the new independent claims 27-34 is respectfully requested.

Heidari describes a process for generating code vectors in a CELP coding system. The compressed speech is applied to a channel coding unit which provides error protection (see abstract, column 2, lines 64-66). The combination of Adoul, Ubale, and Heidari fails to show any of the claim elements of the new independent claims 27-34. Therefore, the allowance of claims 27-34 is respectfully requested.

In paragraph 8 of the Office Action, the Examiner rejected claims 1-3, 8-14 and 17-19 under 35 U.S.C. § 103(a) as being unpatentable over Adoul in view of Ubale, and further in view of Deller, et al. (1987 "Discrete-Time Processing of Speech Signals"). The Applicants have introduced the new independent claims 27-34 to better distinguish the claimed invention from Adoul, Ubale and Deller. The Examiner's consideration of the new independent claims 27-34 is respectfully requested.

Deller describes a method for performing an exhaustive search through the codebook in order to find the excitation sequence which minimizes the error energy.

The combination of Adoul, Ubale, and Deller fails to show any of the claim elements of the new independent claims 27-34. Therefore, the allowance of claims 27-34 is respectfully requested.

In paragraph 10 of the Office Action, the Examiner rejected claims 4-5 under 35 U.S.C. § 103(a) as being unpatentable over Adoul in view of Ubale and Deller, and further in view of Heidari. The Applicants have introduced the new independent claims 27-34 to better distinguish the claimed invention from Adoul, Ubale, Deller and Heidari. The Examiner's consideration of the new independent claims 27-34 is respectfully requested. The combination of Adoul, Ubale, and Deller fails to show any of the claim elements of the new independent claims 27-34. Therefore, the allowance of claims 27-34 is respectfully requested.

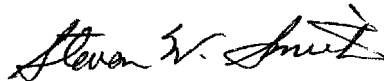
Consequently, all possible combinations of the cited references Adoul, Ubale, Heidari and Deller fail to show any of the claim elements of independent claim 27-34. Therefore, the allowance of claim 27-34 is respectfully requested.

**CONCLUSION**

In view of the foregoing remarks, the Applicants believe all of the claims currently pending in the Application to be in a condition for allowance. The Applicants, therefore, respectfully request that the Examiner withdraw all rejections and issue a Notice of Allowance for claims 27-34.

The Applicants request a telephonic interview if the Examiner has any questions or requires any additional information that would further or expedite the prosecution of the Application.

Respectfully submitted,



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